

Listing of the claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) A vibration exciter for soil compacting devices, comprising:

imbalance shafts that stand parallel or coaxial to one another and that can be driven in opposite directions with the same rotational speed, each of the imbalance shafts bearing an imbalance mass attached to it in stationary fashion relative to the shaft and an imbalance mass that can be moved in a rotational fashion relative to the shaft, and each of the imbalance shafts having allocated to it an adjustment means for individually adjusting a position of the respective movable imbalance mass relative to the imbalance shaft that bears it,

wherein during operation, relative positions of the movable imbalance masses can be adjusted using the adjustment means in such a way that the centrifugal forces produced by the imbalance masses during the rotation of the imbalance shafts cancel each other out as a whole in each rotational position of the imbalance shafts, and

wherein a change of the relative positions of the movable imbalance masses can be executed in such a way that the magnitude of an overall centrifugal force resulting from the imbalance masses is proportional to a speed of forward or backward motion of the soil compacting device.

2. (Previously Presented) A vibration exciter according to Claim 1, wherein the relative position of each movable imbalance mass on the associated imbalance shaft can be adjusted in such a way that the centrifugal forces of the imbalance masses on each individual imbalance shaft cancel each other out in each rotational position of the imbalance shaft.

3. (Previously Presented) A vibration exciter according to Claim 1, wherein, in order to effect a forward motion of the soil compacting device in a horizontal first direction, the relative positions of the movable imbalance masses are capable of being modified in such a way that the centrifugal forces of the imbalance masses do not cancel one another but, instead, generate an overall centrifugal force having a horizontal component.
4. (Previously Presented) A vibration exciter according to Claim 3, wherein, during a transition between forward and backward motion, the centrifugal forces of the imbalance masses cancel each other out as a whole.
5. (Previously Presented) A vibration exciter according to Claim 1, wherein the change of the relative positions of the movable imbalance masses can be executed continuously.
6. (Previously Presented) A vibration exciter according to Claim 1, wherein the imbalance shafts are coupled with one another positively so as to be capable of rotation in opposite directions.
7. (Previously Presented) A vibration exciter according to Claim 1, wherein phase positions of the imbalance shafts relative to one another cannot be modified, despite each movable imbalance mass being movable relative to the imbalance shaft that bears it .
8. (Previously Presented) A vibration exciter according to Claim 1, wherein the adjustment of the relative positions of the movable imbalance masses on the imbalance shafts can be executed synchronously using the adjustment means.
9. (Previously Presented) A vibration exciter according to Claim 1, wherein the adjustment means can be actuated electrically, hydraulically, pneumatically, or mechanically.

10. (Previously Presented) A vibration exciter according to Claim 1, wherein at least one part of the imbalance masses is formed from a plurality of imbalance elements.

11. (Currently Amended) A vibration exciter for soil compacting devices, comprising:

first and second imbalance shafts that are one of parallel and coaxial to one another and that are driven in opposite directions with the same rotational speed, each of the imbalance shafts bearing an imbalance shaft that is stationary with respect to the associated imbalance shaft and an imbalance mass that is rotatable with respect to the associated imbalance shaft, and

adjustment means, allotted to each of the imbalance shafts, for individually rotationally adjusting a position of the each respective movable imbalance mass relative to the associated imbalance shaft, wherein the adjustment means selectively adjusts the positions of the movable imbalance masses relative to their associated imbalance shafts so that the exciter alternatively and selectively

1) operates in a first mode to in which centrifugal forces generated by the imbalance masses during rotation of the imbalance shafts have both aggregate vertical and horizontal components, thereby propelling the exciter to move forwardly or rearwardly while imposing a compaction force for soil compaction, and

2) operates in a second mode in which the centrifugal forces produced by the imbalance masses during the rotation of the imbalance shafts at least essentially cancel each other out as a whole in each rotational position of the imbalance shafts and, therefore, have little or no aggregate horizontal or vertical components, and

wherein, when the exciter is switching between the first and second operating modes to cease machine propulsion, the adjustment means controls a change of the relative positions

—wherein during operation, the adjustment means allotted to the imbalance shafts can adjust the positions of the movable imbalance masses relative to the imbalance shafts in such a way that the centrifugal forces produced by all of the imbalance masses during the rotation of the imbalance shafts cancel each other out as a whole in each rotational position of the imbalance shafts, and

—wherein during operation, the adjustment means allotted to the imbalance shafts can adjust the positions of movable imbalance masses relative to the imbalance shafts while the device is decelerating in such a way that the magnitude of an overall centrifugal force resulting from rotation of all of the imbalance masses is proportional to a speed of forward or backward motion of the soil compacting device.

12. (Previously Presented) A vibration exciter according to Claim 11, wherein the adjustment means can be actuated electrically, hydraulically, pneumatically, or mechanically.
13. (New) A vibration exciter according to claim 1, wherein the phases of the imbalance shafts are fixed relative to one another.
14. (New) A vibration exciter according to claim 11, wherein the phases of the first and second imbalance shafts are fixed relative to one another.
15. (New) A vibration exciter for soil compacting devices, comprising:

first and second imbalance shafts that are one of parallel and coaxial to one another and that are driven in opposite directions with the same rotational speed, each of the imbalance shafts bearing an imbalance shaft that is stationary with respect to the associated imbalance shaft and an imbalance mass that is rotatable with respect to the associated imbalance shaft, and

adjustment means, allotted to the imbalance shafts, for individually rotationally adjusting a position of each respective movable imbalance mass relative to the associated imbalance shaft, wherein the adjustment means selectively adjusts the positions of the movable imbalance masses relative to their associated imbalance shafts and relative to one another so that the exciter alternatively and selectively

- 1) operates in a first mode to in which centrifugal forces generated by the imbalance masses during rotation of the imbalance shafts have both aggregate vertical and horizontal components, thereby propelling the exciter to move forwardly or rearwardly while imposing a compaction force for soil compaction, and
- 2) operates in a second mode in which the centrifugal forces produced by the imbalance masses during the rotation of the imbalance shafts at least essentially cancel each other out as a whole in each rotational position of the imbalance shafts and, therefore, have little or no aggregate horizontal or vertical components.

16. (New) A vibration exciter according to claim 15, wherein the phases of the first and second imbalance shafts are fixed relative to one another.

17. (New) A method of operating a vibration exciter for a soil compacting device, the method comprising the steps of:

driving first and second imbalance shafts that are arranged in parallel or coaxially with respect to one another in opposite directions at the same rotational speed, wherein each of the imbalance shafts bears an imbalance mass that is attached to the shaft to move with it and a movable imbalance mass that is rotatable relative to the imbalance shaft;

selectively adjusting the positions of the movable imbalance masses relative to their associated imbalance shafts such that the exciter alternatively and selectively

- 1) operates in a first mode to in which centrifugal forces generated by the imbalance masses during rotation of the imbalance shafts have both aggregate vertical and horizontal components, thereby propelling the exciter to move forwardly or rearwardly while imposing a compaction force for soil compaction, and
- 2) operates in a second mode in which the centrifugal forces produced by the imbalance masses during the rotation of the imbalance shafts at least essentially cancel each other out as a whole in each rotational position of the imbalance shafts and, therefore, have virtually no or no aggregate horizontal or vertical components.

18. (New) The method according to claim 17, wherein, when the exciter is switching between the first and second operating modes to cease machine propulsion, the relative positions of the movable imbalance masses relative to the imbalance shafts are controlled while the soil compacting device is decelerating in such a way that the magnitude of an overall centrifugal force resulting from rotation of all of the imbalance masses is proportional to a speed of forward or backward motion of the soil compacting device.

19. (New) A method according to claim 17, wherein the phases of the first and second imbalance shafts are fixed relative to one another.